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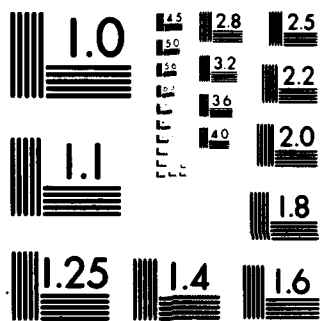
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Two experimental manipulations were undertaken to improve the response rate to questionnaires mailed to Navy enlisted men who were joining the Fleet Reserve after twenty years of service. In a two by two design we studied the effects of giving \$1 incentive payments and using certified mail. The data showed that incentives sharply increased response rate, in one mailing from 17% to 34%, but that certification had no effect. Explanations of the beneficial effect of incentives and the ineffectiveness of certified mail are discussed.

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and Certified Mail

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Although mail questionnaires offer economical advantages over personal interviews, they often have lower response rates which can offset, at least partly, the gains. Yet a number of factors have been shown to be related to improved response rates to mail questionnaires (Heberlein and Baumgartner, 1978). We examined how two factors--using special mailing procedures and giving monetary incentives--might improve the response rate to our mail questionnaires. Both have proved effective in earlier projects. Dillman et al. (1974) found that certified mail increased returns in a follow-up mailing and House et al. (1977) showed that certified mail yields much higher returns than first class mail. Both studies involved follow-up mailings whereas the current report considered initial mailings to subjects.

We studied Navy enlisted men to whom we sent questionnaires before they were to retire after twenty years of service. On balance our sample should have given us a high response rate according to the key factors isolated by Heberlein and Baumgartner (1978): the subjects were members of the armed forces; the content of the questionnaire was quite salient to the men since it dealt with their impending career change; and the study was sponsored by a government organization, the Office of Naval Research. On the other hand, our design included two factors associated with diminished response rates. The questionnaire contained attitude items and it was long (it took about 50 minutes to complete). In the initial part of the study, we considered the effects of incentive payments and certified mailing in a two-by-two design. In later mailings we replicated a portion of the foregoing and we tried out a less demanding mail package.

#### METHODS

The data were collected as part of a longitudinal study of the adjustment of Navy men and their wives to their reentry into civilian life. The initial mailing to the subjects occurred roughly four to eight weeks before they were scheduled to leave the Navy. The men were stationed in one of the fifty states on shore duty when they were sent our mailing. The initial mail package was sent to the man's Navy work address. This demanding package

contained a large number of enclosures: a cover letter briefly describing the study and soliciting cooperation, an additional page with more detailed information about the study, separate questionnaires for the man and his wife, separate return envelopes for both parties, two subject consent forms with a third return envelope. The man's questionnaire dealt with his Navy job, his health, feeling states, career plans, marriage, coping and defensive processes; and the wife's dealt with a subset of the foregoing.

In a two-by-two design, one half of the packages were sent certified mail (with no return receipt); the other half were sent regular first-class. Information about Navy mail deliveries indicated that an enlisted man would almost never sign for a package himself so that any beneficial effect of the certification would presumably be related to positive reactions to the certified mail label itself, e.g. the aura of importance attributed to certified mail. One-half of each of the above groups received a Susan B. Anthony silver dollar with an attached note, "This is a token of our thanks for your help." The remaining half of the above subjects who were in the no incentive condition did not receive any payment. Data from three mailings will be reported. In the first mailing, the incentive and mailing conditions were tested in the two-by-two design; in the second, a partial replication of the first, the incentive, no incentive conditions were contrasted; and in the third, returns of a pilot questionnaire involving fewer demands upon the respondents were examined. These last respondents had questionnaires half as large as the above; their wives were not included; and they were requested to complete one instead of three questionnaires. They also received the \$1 incentive.

## RESULTS

Table 1 contains the results of the first two mailings in the study. The returns for the first mailing (N=220) show that the payment of an incentive yielded greater returns than the absence of such payments, 34.5% vs. 16.8% (Chi-square=8.06,  $p < .01$ ). On the other hand, there was a minimal difference between sending the package by certified mail rather than regular first-class, 27.3% vs. 24.5% (Chi-square=.09, N.S.). The second mailing replicated the above findings of a greater response to the incentive condition than the no-incentive condition (Chi-square=2.83,  $p < .05$ ).

In the third mailing (N=188) the response rate was 49.5%, significantly (Chi-square=1.66,  $p < .10$ ; one-tailed) greater than the largest return rate in Table 1.

## DISCUSSION

In this study, the response rate to a mail questionnaire was significantly greater with the use of a monetary incentive (34.5%) as compared to a no-incentive condition (16.8%). The finding was replicated in a second, independent test. Clearly, reimbursing the respondent increases his motivation to complete the questionnaire but the motivation may not be exclusively financial in nature any more than our 'token' was solely intended to be payment for work to be done. It may be that the \$1 establishes a cooperative, reciprocal relationship between the respondent and the survey researcher.

From our perspective, the experimental manipulation using incentives was cost-effective. The \$1 incentive, although adding little to the \$3 cost of the questionnaire and mailing charges, more than doubled the response rate. In a no-incentive condition, it would have taken twice as many mailings at 50% greater cost to obtain the same number of returns. Hence, the incentive condition resulted in a savings of 33%. However, less savings would result in studies with higher initial rates, where a ceiling effect might operate, or where the questionnaire and mailing charges were smaller relative to the amount of the incentive.

Turning to mailing procedures, we found that certified mail, as opposed to regular first-class mail, had no differential effect upon response rate. This result stands in sharp contrast to the findings of Dillman et al. (1974) and House et al. (1977). Our result may be different because the other studies used certified mail for follow-up mailings whereas we used the same procedure for the initial mailing. Perhaps the importance aspect of certified mail is more effective with committed respondents than with potential ones. Dillman (1978) argues that certified mail conveys a sense of urgency and that may be counter-productive with an initial request for help which should be low-key in nature. More empirical data are necessary here.

Although the monetary incentive sharply improved response rates, the returns for our regular questionnaire packet were never greater than 38.6% of the number sent out. Even this rate is below the average response rate of 48% for one mailing that is mentioned by Heberlein and Baumgartner (1978),

although response rates have declined in recent years (Steeh, unpublished manuscript, 1980). A high response rate is desirable, of course, so that the sample can be representative of the total population and hence the conclusions can be generalized beyond the respondents who returned the questionnaire.

Less than 1% of our subjects sent back a note explicitly refusing to participate whereas over 8% of the mailings were returned because of incorrect addresses. Given the number and mobility of U.S. Navy enlisted personnel it is likely that some of the intended recipients never received mailing packets that, nonetheless, were not subsequently returned to us. Hence the percent improvement in response rate from the no incentive condition to the incentive condition may be somewhat less than the 100+% change we obtained.

It is noteworthy that shortening the length of the questionnaire and reducing other demands upon the subjects yielded the most dramatic improvement in response and increased our rate to the average cited earlier. This substantiates Dillman's (1978) argument that a group of procedures for improving response rate to mail questionnaires is the most practical approach to use rather than relying upon one technique.



Table 1.

Percent Response Rate for Each Mailing  
as a Function of Certified Mail and Incentive Payment

	Incentive	No Incentive	Means
Certified Mail	1st Mailing 38.6	15.1	27.3 <sup>2</sup>
Not Certified	1st Mailing 30.3	18.5	24.5 <sup>2</sup>
	2nd Mailing 32.9 <sup>3</sup>	20.0 <sup>3</sup>	26.1
Means	1st Mailing 34.5 <sup>1</sup>	16.8 <sup>1</sup>	

<sup>1</sup>Chi-square=8.06,  $p < .01$ , one-tailed

<sup>2</sup>Chi-square=0.09, N.S.

<sup>3</sup>Chi-square=2.83,  $p < .05$ , one-tailed

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